

***Cancer Crab Fishery Overview***  
***ISFMP Policy Board***  
***May 2013***

***Introduction***

The Atlantic States Marine Fisheries Commission does not manage cancer crab (Jonah crab, *Cancer borealis*, and Rock crab, *Cancer irroratus*). Growing concern has been raised that as Cancer crab increases in value protecting the resource will be difficult without management. A Fishery Improvement Project (FIP) for Cancer crab was introduced to the Commission at the August 2013 ISFMP Board meeting. Fishery Improvement Projects (FIPs) are industry-led initiatives to develop and implement plans to improve the sustainability of fisheries. They can be important in fisheries where government regulation do not exist. A group of buyers and sellers of Jonah crab, along with researchers and management entities, have begun to collaborate on a project that would protect the Cancer crab fishery from overharvest in order to maintain the long-term viability of the industry. Their goal is to enact a FIP that would result in improved fisheries data and monitoring, as well as traceability efforts that enable product differentiation in the marketplace.

The FIP work group is investing in a formal assessment of the fishery to inform a work plan, outlining measures needed to ensure the fishery's long-term sustainability. This assessment is in progress, and a work plan will likely be developed by the end of 2013.

***Life History***

There is limited information on the abundance and life history of cancer crab. Cancer crabs are found from Newfoundland to Florida at depths ranging from the intertidal to 750 m but are most abundant in the northern latitudes. Multiple studies suggest Jonah crabs migrate to some extent, though some believe Jonah crab migration is limited compared to Rock crab. Depth, season, habitat, and temperature affect the abundance of Jonah crabs. Some studies suggests Jonah crabs have a tolerance for a narrower temperature range than the Rock crab and may stay farther offshore with the more stable bottom temperatures (Reardon, 2006).

Most females are sexually mature at 89 mm carapace width and the majority of male crabs are sexually mature at 128 mm carapace width. Once mature, an individual female has 1 brood per year with a 6 month brood period and likely 5 broods per lifetime (Reardon, 2006).

Jonah crab area generalist predator, eating mussels, polychaetes, sea urchins, and crab and fish remains. In shallow water small crabs are the most common prey item for cunners, sculpins, and lobster. In deeper waters, Jonah crab, along with Rock crab, was preferred prey for large predatory finfish, like cod (Reardon, 2006).

***Landings***

Jonah crab was originally known only as bycatch in nearshore lobster fisheries. In the late 1980s, as stocks of the more popular crabs became depleted, New England fishermen began to experiment with alternatives. Cancer crab bycatch is both a positive and negative in the lobster fishery. It can supplement the catch value when crab are large enough (dictated by the market not management) to harvest or a nuisance in that it takes time to remove from traps and crab eats

lobster bait. Rock crab is caught primarily in shallow inshore waters and tends to be smaller than Jonah crab. Jonah crab is a larger crab often found in deeper waters so it can be caught in both state and federal waters. During the winter and spring, lobster fishermen have been known to target Jonah crab offshore when the lobster catches are low.

Fishermen harvest *Cancer* crabs from Maine to Virginia. The true quantity of pounds landed of each species is uncertain due to the lack of mandatory reporting and confusion with the species names (Figure 1). Confusion between the two species is widespread because fishermen and dealers commonly refer to Jonah crab, *C. borealis*, as “rock crab” and Rock crab, *C. irroratus*, as various names including “picky” toe, sand crab, quick crab, and eel grass crab while the scientific literature and landings programs use “Rock crab” for *C. irroratus*.

In 1990, Rhode Island landed ~900,000 pounds of Jonah crab, by far the largest share. Maine was second, with ~400,000 pounds. Maryland, New Jersey, and New York each landed less than 22,000 pounds of Jonah crab in that year. By 1994, Delaware, New Hampshire, and Massachusetts had joined the fishery. Maine's landings dropped below 55,000 pounds. Maine landings of rock crab dropped from over 2 million pounds in 2004 to 1 million in 2012. Rhode Island and Massachusetts have seen the largest increase in crab landings in recent years. Rhode Island went from 900,000 pounds of Jonah crab in 2004 to over 3 million pounds in 2012. Massachusetts went from 900,000 pound of Jonah crab in 2004 to over 7.5 million pounds in 2012 (*ACCSP Data Warehouse, September 2013*).

Since 2002, the cancer crab fishery has increased from an ex-vessel value of 2 million dollars to over 8 million dollars (Figure 2). Jonah Crab claws are relatively large and can be an inexpensive substitute for stone crab claws. With only a handful of processors specializing in this fishery, the quality of Jonah and rock crabmeat is very consistent. While the ex-vessel prices for other popular crabs such as Dungeness have soared, fishermen have seen their boat prices for Jonah crab rise only modestly from about \$.50/lb. to \$.70/lb from 2009 to 2012 and rock crab prices has remained close to 0.45 per pound since 2006 (*ACCSP Data Warehouse, September 2013*). That's largely because there is only a small live market for Jonah crab and only a handful of plants process Jonah crabmeat and claws, limiting price competition for the catch.

Prices of Jonah crab products, on the other hand have increased as more buyers look for an alternative to much higher priced blue and Dungeness crabmeat. With refreshed Dungeness meat now selling for \$18/lb., the price of Jonah crabmeat has settled in at about \$13-\$15/lb., depending upon customer species.

### ***Fishery Management***

Throughout the years of crab harvesting, there has very little directed state or federal regulations on crab, but there are two indirect measures that can limit crab fishing to an extent: (1) the method of harvesting and (2) the landing of the crab to sell in a state. Therefore, the limits to harvesting crab come from the measures of other regulated fisheries, in particular lobster. In federal waters, one can not possess a lobster without a lobster permit, thus lobster regulations can apply to crab because of the shared method of fishing traps. The federal regulations require, “any vessel of the United States that fishes for, possesses, or lands American lobster in or harvested

from the Exclusive Economic Zone (EEZ) must have been issued and carry on board a valid Federal limited access lobster permit” (50 CFR § 697.4). With this permit, the federal regulations also set a trap limits thus indirectly limiting the number of traps fishing on crabs. There is a loop hole in that if a vessel does not have a lobster permit and does not possess any lobster it could fish an unlimited number of traps for crabs.

States have set some regulations pertaining to crab, mainly landing limits, that vary up and down the coast. For example, in Maine crab cannot be landed without a lobster and crab fishing license, which are limited in the state. A Maine fisherman could not begin fishing for crab exclusively (in either state or federal waters) to be landed in Maine without a state “lobster and crab fishing license”. Some states have a combined a lobster/crab license like Maine to allow for landing by-catch harvested with the lobster while other states have various fishing and landing permits for unregulated species. In Massachusetts has a lobster / crab license necessary to fish and land edible crab (any crab other than a green), but MA also has a closed season for edible crab. In Rhode Island, fishermen must have a non-lobster crustacean or multi-purpose fishing permit and a landing permit to sell the crabs at port.

The increases in catch and effort in the crab fishery raises questions about its long term sustainability. A species’ resiliency to exploitation is dependent on growth rate, rate of sexual maturation, fecundity, mode of dispersal (for adults and larvae), and its size and age relative to when it recruits to the fishery, but some of this information for Cancer crab is unknown.

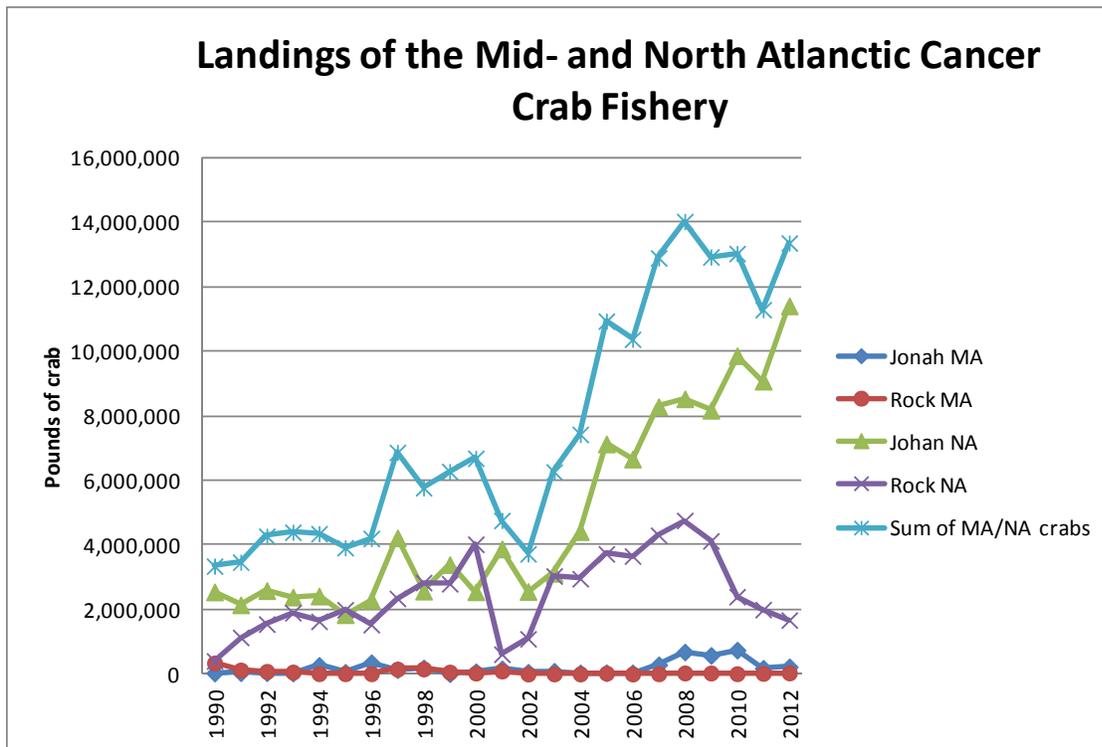


Figure 1. Landings of Cancer crab in the Mid (MD-NY)-and North (CT-ME) Atlantic Regions. *Source ACCSP Data Warehouse, September 2013*

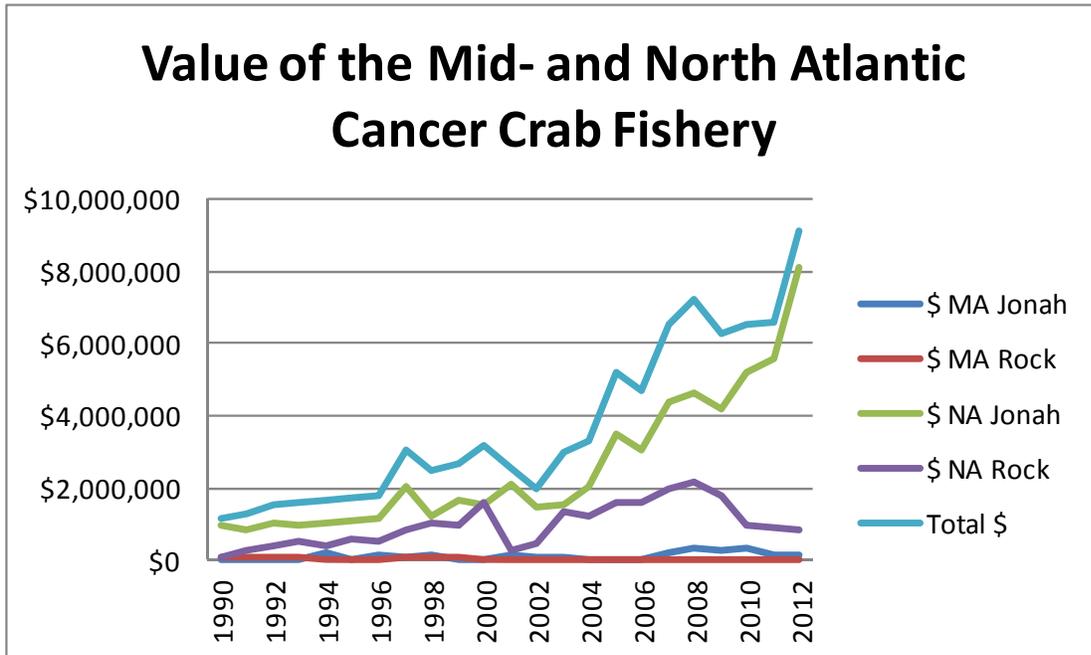


Figure 2. Value of Landings of Cancer crab in the Mid (MD-NY)-and North (CT-ME) Atlantic Regions. *Source ACCSP Data Warehouse, September 2013*

#### Citations

Reardon, K. 2006. Development, Assessment, and Management of a Potential Directed Fishery for Jonah Crab in the Nearshore Gulf of Maine. The Graduate School University of Maine.